a contact tip structure created in a first substrate and then secured only to an end of the freestanding resilient elongate element and released from said first substrate.

88. (Amended) The interconnection component, according to claim 87 wherein:
the contact tip structure is formed with at least one [sharp point] pointed feature.

90. (Amended) The interconnection component, according to claim 87 wherein:
the contact tip structure is [formed as part of] integral with a cantilevered interconnect structure.

91. (Amended) The interconnection component, according to claim 87 wherein:
the interconnection element has a [relatively flexible] core element and a shell on the [relatively flexible] core element.

106. (Twice Amended) An electronics assembly comprising:
a substrate;
a freestanding resilient elongate element having a first end secured to the substrate; and
a contact tip structure created in another substrate and then secured only to [the] a second end of the freestanding resilient elongate element opposing the first end and released from said another substrate.

Please add the following new claims:

115. (New) A method of forming elongate interconnection elements having tip contact pads, comprising:

constructing a plurality of tip contact pads on a sacrificial substrate;

mounting a plurality of interconnection elements to the tip contact pads to form first structures having the interconnection elements and the tip contact pads; and

after mounting the tip contact pads to the interconnection elements, removing the sacrificial substrate wherein the first structures are resilient after said removing of the sacrificial substrate.

116. (New) The method, according to claim 115, further comprising:

prior to constructing the tip contact pads, providing a selected topography in the sacrificial substrate to impart a controlled geometry to the tip contact pads.

117. (New) The method, according to claim 116, wherein:

the controlled geometry of the tip contact pads is for each of the tip contact pads at least one pointed feature.

118. (New) The method, according to claim 115, wherein:

the tip contact pads comprise multiple metallic layers.

119. (New) The method, according to claim 115, wherein:

each of the tip contact pads is integral with a cantilevered interconnect structure.

120. (New) The method, according to claim 115, wherein:

the interconnection elements each have a diameter; and

the tip contact pads each have a diameter which is larger than the diameter of one of said interconnection elements.

121. (New) The method, according to claim 115, wherein:

the interconnection elements are elongate and provide the resiliency of the first structures.

122. (New) The method, according to claim 115, wherein:

the interconnection elements have a core element and a shell;

the core element is readily-shaped and comprises a material selected from the group consisting of:

(a) gold, aluminum and copper with small amounts of beryllium, cadmium, silicon and magnesium, and

(b) metals of the platinum group, and

(c) lead, tin, indium.

123. (New) The method, according to claim 122, wherein:

the core element has a diameter in the range of from 0.25 to 10 mils.

124. (New) The method, according to claim 122, wherein:

the core element has a diameter in the range of from 0.5 to 3 mils.

125. (New) The method, according to claim 122, wherein:

the core element has a length in the range of from 10 mils to 500 mils.

126. (New) The method, according to claim 122, wherein:

the shell has at least one layer which comprises a material which is selected for its ability to provide mechanical properties selected from the group consisting of spring properties, resiliency yield strength and compliance for the interconnection elements.

127. (New) The method, according to claim 126, wherein:

the shell has at least one layer which comprises a material which has a yield strength of at least thirty thousand pounds per square inch.

128. (New) The method, according to claim 126, wherein:

the shell has at least one layer which comprises a material which has a tensile strength in excess of 80,000 pounds per square inch.

129. (New) The method, according to claim 122, wherein:

the shell has at least one layer which comprises a material selected from the group consisting of nickel, iron, and cobalt.

130. (New) The method, according to claim 122, wherein:

the shell has at least one layer which comprises a material selected from the group consisting of copper, nickel, cobalt, tin, boron, phosphorous, chromium, tungsten, molybdenum, bismuth, indium, cesium, antimony, gold, silver, rhodium, palladium, platinum, and ruthenium.

131. (New) The method, according to claim 122, wherein:

the shell has at least one layer which comprises a material selected from the group consisting of nickel, cobalt, iron, phosphorous, boron, copper, tungsten, molybdenum, rhodium, chromium, ruthenium, lead, and tin.

132. (New) The method, according to claim 122, wherein:

the shell has a thickness in the range of from 0.20 mils to 20 mils.

133. (New) The method, according to claim 122, wherein:

the shell has a thickness in the range of from 0.25 to 10 mils.

134. (New) The method, according to claim 115, wherein:

each interconnection element has a core element and a shell on the core element.

135. (New) The method, according to claim 134, further comprising:

forming a first intimate bond between a first end of the core element and a conductive contact terminal carried by an electronic component; and

forming a second intimate bond between the shell and at least a portion of the conductive contact terminal immediately adjacent the first intimate bond.

136. (New) A method of fabricating an interconnection element having a contact tip structure, comprising:

forming a contact tip structure on a sacrificial substrate;

attaching an interconnection element to the contact tip structure to form a first structure having the interconnection element and the contact tip structure; and

removing the contact tip structure from the sacrificial substrate wherein the first structure is resilient after said removing of the contact tip structure.

137. (New) The method, according to claim 136, further comprising:

prior to constructing the contact tip structure, providing a selected topography in an area of the sacrificial substrate, wherein the contact tip structure is formed on the area of the sacrificial substrate which is formed with the selected topography.

138. (New) The method, according to claim 136, wherein:

the contact tip structure comprises multiple metallic layers.

139. (New) The method, according to claim 136, wherein:

the contact tip structure is integral with a cantilevered interconnect structure.

140. (New) The method, according to claim 136, wherein:

the interconnection element is elongate and provides the resiliency of the first structure.

141. (New) The method, according to claim 140, wherein:

the interconnection element has a core element and a layer on the core element.

142. (New) The method, according to claim 140, wherein:

the interconnection element has a core element and a layer, on the core element, comprising a material selected from the group consisting of nickel and cobalt.

143. (New) The method, according to claim 142, wherein:

the core element comprises gold.

144. (New) The method, according to claim 136, wherein:

the interconnection element has a core element and a shell;

the core element is readily-shaped and comprises a material selected from the group consisting of:

(a) gold, aluminum and copper with small amounts of beryllium, cadmium, silicon and magnesium, and

(b) metals of the platinum group, and

(c) lead, tin, indium.

145. (New) The method, according to claim 141, wherein:

the core element has a diameter in the range of from 0.25 to 10 mils.

146. (New) The method, according to claim 141, wherein:

the core element has a diameter in the range of from 0.5 to 3 mils.

147. (New) The method, according to claim 141, wherein:

the core element has a length in the range of from 10 mils to 500 mils.

148. (New) The method, according to claim 141, wherein:

the layer has at least one layer which comprises a material which is selected for its ability to provide mechanical properties selected from the group consisting of spring properties, resiliency yield strength and compliance for the interconnection element.

149. (New) The method, according to claim 148, wherein:

the layer has at least one layer which comprises a material which has a yield strength of at least thirty thousand pounds per square inch.

150. (New) The method, according to claim 148, wherein:

the layer has at least one layer which comprises a material which has a tensile strength in excess of 80,000 pounds per square inch.

151. (New) The method, according to claim 141, wherein:

the layer has at least one layer which comprises a material selected from the group consisting of nickel, iron, and cobalt.

152. (New) The method, according to claim 141, wherein:

the layer has at least one layer which comprises a material selected from the group consisting of copper, nickel, cobalt, tin, boron, phosphorous, chromium, tungsten, molybdenum, bismuth, indium, cesium, antimony, gold, silver, rhodium, palladium, platinum, lead, and ruthenium.

153. (New) The method, according to claim 141, further comprising:

forming a first intimate bond between a first end of the core element and a conductive contact terminal carried by an electronic component; and

forming a second intimate bond between the layer and at least a portion of the conductive contact terminal immediately adjacent the first intimate bond.

REMARKS

By this Preliminary Amendment, Applicants have amended claims 87-88, 90-91 and 106 so as to place them in better form for allowance. Claims 115-153 have been added. Applicants note that no new matter has been added by way of this Preliminary Amendment. Applicants respectfully request consideration of the instant application as amended.

I. Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 88 and 90-91 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants have amended claims 88 and 90-91 to clarify the claimed subject matter.